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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/685,382

10/10/2000

Kurt A. Carlsen

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EXAMINER

TRAN, HIEN THI

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/685,382

Applicant(s)

CARLSEN, KURT A.

Examiner

Hien Tran

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 and 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-25 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1764

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, 15-18, drawn to an exhaust gas scrubber, classified in class 422, subclass 171.
 - II. Claims 11-14, drawn to a system for processing a semiconductor wafer, classified in class 118, subclass 715+.
 - III. Claims 19-25, drawn to a method for scrubbing an exhaust gas, classified in class 423, subclass 210+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process, such as the process of manufacturing a chemical compound.

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, each invention is capable of supporting its own patent and does not require the particulars

Art Unit: 1764

of the subcombination as claimed for patentability. Each of the invention has its own separate utility.

Inventions II and III are independent and distinct.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, recognized divergent subject matter and the search required for Group I is not required for Groups II and III, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Lawrence H. Meier on 12/13/01, a provisional election was made with the right of traverse to prosecute the invention of group I, claims 1-10, 15-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-14 and 19-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

5. The drawing filed 10/10/00 is approved by the Draftsperson under 37 CFR 1.84 or 1.152.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "28" has been used to designate both inlet 28 (page 7, line 15) and substrate 28 (page 7, line 16). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which

Art Unit: 1764

applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

8. The disclosure is objected to because of the following informalities:

On page 7, line 16 "28" should be changed to --32-- for consistency (note line 13).

On page 16, line 15 "BTV/..." should be deleted.

Appropriate correction is required.

9. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-10, 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 4 it is unclear as to what structural limitation is implied by "CVD chamber", and what defines such chamber; in line 6 it is unclear as to what "each" is implied.

In claim 8, it is unclear as to where the heating element is shown in the drawings.

In claim 9, the language of the claim is directed to method limitation which renders the claim vague and indefinite as it is unclear as to which structural limitation applicant is attempting to recite; in line 1 "the chemical component" lacks positive antecedent basis as it is merely

Art Unit: 1764

recited in an intended use clause. Also the chemical component is not a part of the scrubber and therefore the claim is not further limiting.

In claim 15, lines 4-5, 8-9, it is unclear as to what structural limitation applicant is attempting to recite, what elements are used for removing a portion of the exhaust gas.

In claim 17, line 1 "the non-toxic part" lacks positive antecedent basis as it is merely recited in an intended use clause. Also the non-toxic part is not a part of the scrubber and therefore the claim is not further limiting.

In claim 18, line 1 "the toxic part" lacks positive antecedent basis as it is merely recited in an intended use clause. Also the toxic part is not a part of the scrubber and therefore the claim is not further limiting.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 3, 5, 7, 10, 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibana et al (5,271,908).

With respect to claims 1, 3, Shibana et al discloses an apparatus comprising: an enclosure defining a chamber for receiving exhaust gas having a gas inlet 12, a gas outlet 13, the inlet and outlet being in fluid communication with said chamber; at least one substrate/baffle 14 contained within the enclosure between the gas inlet and the gas outlet; said substrate having a film deposition surface.

Art Unit: 1764

With respect to claims 5, 7, Shibani et al discloses a plurality of substrates 14 forming a series of baffles within the chamber, said series of baffles being positioned to define a serpentine passageway (Fig. 1).

With respect to claims 10, 17-18, the claim is directed to method limitation which is not patentable in apparatus claim and therefore the apparatus of Shibani et al structurally meets the claims. In any event, Shibani et al discloses that the exhaust gas includes a chemical component, such as silicon, arsenic (col. 1, lines 25-50).

With respect to claims 15-16, Shibani et al discloses a first enclosure defining a first chamber for receiving the gas (the bottom portion in Fig. 1); a substrate/baffle 14 located in the first enclosure; a second enclosure defining a second chamber (the middle portion and the last portion in Fig. 1) in fluid communication with said first chamber for receiving at least a portion of the gas.

As best understood, instant claims 1, 3, 5, 7, 10, 15-18 structurally read on the apparatus of Shibani et al.

14. Claims 1, 3-5, 7-8, 10, 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Blickle et al (3,607,104).

With respect to claims 1, 3, Blickle et al discloses an apparatus comprising: an enclosure defining a chamber for receiving exhaust gas having a gas inlet 11, a gas outlet 13, the inlet and outlet being in fluid communication with said chamber; at least one substrate/baffle 2, 12 contained within the enclosure between the gas inlet and the gas outlet; said substrate having a film deposition surface.

Art Unit: 1764

With respect to claim 4, Blickle et al discloses that the baffle 2 includes a plurality of apertures (Fig. 1).

With respect to claims 5, 7, Blickle et al discloses a plurality of substrates 12 forming a series of baffles within the chamber, said series of baffles being positioned to define a serpentine passageway (Fig. 1).

With respect to claim 8, Blickle et al discloses provision of a heating means (col. 2, lines 63-64).

With respect to claims 10, 17-18, the claim is directed to method limitation which is not patentable in apparatus claim and therefore the apparatus of Blickle et al structurally meets the claims.

With respect to claims 15-16, Blickle et al discloses a first enclosure defining a first chamber 3 for receiving the gas; a substrate/baffle 12 located in the first enclosure 3; a second enclosure defining a second chamber 4 in fluid communication with said first chamber for receiving at least a portion of the gas.

As best understood, instant claims 1, 3-5, 7-8, 10, 15-18 structurally read on the apparatus of Blickle et al.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1764

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibana et al (5,271,908) in view of Smith et al (5,213,767).

Shibana et al fails to disclose whether the substrate may be made of quartz. However, Smith et al discloses provision of using quartz material in making container.

It would have been obvious to one having ordinary skill in the art to alternately select an appropriate material, such as quartz, as taught by Smith et al in the apparatus of Shibana et al, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In *re Leshin*, 125 USPQ 416.

18. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibana et al (5,271,908) or Blickle et al (3,607,104).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide more than one baffle with apertures, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Art Unit: 1764

It would have been obvious to one having ordinary skill in the art to construct the substrate so as it is removable and reusable in the apparatus of either Shibana et al or Blickle et al for cost saving.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is 308-4253. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (703) 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

HT
February 21, 2003

Hien Tran
Hien Tran
Primary Examiner
Art Unit 1764